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SOVIET BEARING PRODUCTION METHODS;  
BEARING REPAIR, CONSULTATION SERVICE

IMPROVE TECHNOLOGY AT BEARING PLANT -- Moscow, Pravda, 26 Mar 53

The Moscow First State Bearing Plant exceeded its 1952 plan and increased output 13.2 percent above that of 1951. In the shops, 90 percent of this increase was achieved by raising labor productivity.

In 1953, the plant will organize the output of about 100 new types of bearings.

Plant workers have pledged to fulfill the 1953 production plan by 19 December and to achieve the entire 1953 increase in bearing output by raising labor productivity. In previous years, production increases were achieved partly by increasing the number of workers at the plant, but no increase in the labor force is planned for 1953.

Late in 1952, an automatic transfer machine line consisting of 40 machine tools was put in operation to carry out automatically all machining operations on bearing rings. This line raised labor productivity 50 percent. Usually such automatic transfer lines are made by the machine tool building industry, but this line was set up by the plant by modifying old multispindle semiautomatic lathes. Unfortunately, it still takes an unnecessarily long time to plan, set up, and test these new technological processes.

Profile rolling was employed on a fairly large scale in 1952, but in 1953 the plant will expand use of the method and process several thousand tons of steel in this way.

The use of automatic rolling mills for making large-sized balls will be approximately doubled in 1953.

At present, the plant, aided by two scientific research institutes, is working on a process for rolling spherical rollers instead of cutting them from bar stock on a lathe.

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Grinding speeds for bearing parts are still low, and special attention will be devoted to high-speed grinding methods in 1953. The plant plans to equip all centerless grinding machines in the roller shop with loading devices.

A large section of machine tools in the automatic lathe shop is equipped with automatic mechanisms which load and remove workpieces for a number of types of machine tools, thus converting them to automatics. Another machine tool section is being equipped with these automatic mechanisms.

The machinery and repair shop is making the first group of polishing machines designed by Voronkov and Skomoroshin. These automatic machines will increase labor productivity in the polishing of rings 2-2½ times.

Several machines for inserting rivets in cages are now in operation, and the plant intends to mechanize this operation completely.

The most pressing problem right now is to organize the complex mechanization of entire shops, and plant engineers are working on such projects for the forge, heat treating, and grinding shops. -- V. Devyatov, director, Moscow First State Bearing Plant.

POWDER METALLURGY PROCESS HAS DESIGN ERRORS -- Moscow, Moskovskaya Pravda, 19 Apr 53

In the postwar period, the Moscow First State Bearing Plant has raised labor productivity more than two times and almost doubled the output per unit of equipment.

The plant adopted high-speed grinding with the aid of Professor Spitsyn of ENIIPP (Experimental Scientific Research Institute of the Bearing Industry). High-frequency electric spindles, rotating at speeds of 12,000 to 24,000 revolutions per minute, were designed and put into use. The Department of Electrical Equipment, Moscow Power Engineering Institute imeni V. M. Molotov, helped considerably in this project.

The plant has received considerable help in the field of induction heating from Professor Vologdin and others of the Leningrad Scientific Research Institute for High-Frequency Currents. All MGR250 forging rolls have been equipped with semiautomatic induction heating devices which increase their productivity 15-20 percent, reduce burning, and turn out more accurate blanks.

The First State Bearing Plant, with the aid of Giprovottraktorprom (State Planning Institute for Machine Building Plants of the Automobile and Tractor Industry), achieved the complex mechanization of the lathe section which machines bearing rings.

Orgavtoprom (All-Union State Institute of Automobile Technology) helped the plant introduce precision casting methods.

However, the plant sometimes finds the recommendations of the institutes unacceptable, because processes developed under laboratory conditions are not always adaptable to production, and sometimes cause serious complications. For example, the plant asked Orgavtoprom to develop a powder metallurgy process for making various parts. The plant spent large sums on the project and set up a special production section. But the equipment built by Tsentrprom elektrotekh' (Central Industrial Electric Furnace Trust?) according to the specifications of Orgavtoprom was not tested in time, and was found to have errors in design. These design errors cost the plant a great deal of money. There have been similar instances of faulty design. Greater control over the fulfillment of joint projects is needed to eliminate such costly errors.

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For 1953, the First State Bearing Plant has concluded agreements with 15 scientific research institutes for work on 53 new projects. These projects cover the introduction of new technology, highly productive processes, metal saving, electric power saving, and automatization.

The plant will soon increase its productive capacity 25 percent without obtaining significant additional equipment or production space. However, a considerable portion of the plant's machine tools and feed mechanisms have become obsolete. The plant is striving to convert multi-spindle semiautomatic lathes, grinding machines, and other machine tools into automatics. -- A. Gromov, chief engineer, Moscow First State Bearing Plant

SET UP AUTOMATIC LINE -- Moscow, Izvestiya, 19 Apr 53

At the Sverdlovsk Bearing Plant, an automatic transfer machine line for grinding bearing rollers has been set up. This line increases labor productivity in this operation ten times over the old method.

BUREAU FOR BEARING REPAIR, CONSULTATION -- Kiev, Pravda Ukrainy, 20 Mar 53

The Khar'kov Technical Installation Bureau for Ball and Roller Bearings, Soyuzposhipnikshyt Trust, carries out the following types of work on a contract basis:

Consultation and technical aid on antifriction bearing applications and operation.

Rebuilding of bearing units and replacement of foreign-made bearings with USSR bearings.

Designing of special bearing units.

Unification of existing units to reduce the number of type sizes of replacement bearings necessary.

Supervision of installation of bearing units in complex machines.

Setting up bearing management facilities in large enterprises.

Analysis of premature breakdowns and development of ways to prevent their recurrence.

Publication of guide materials for the application of bearings.

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